

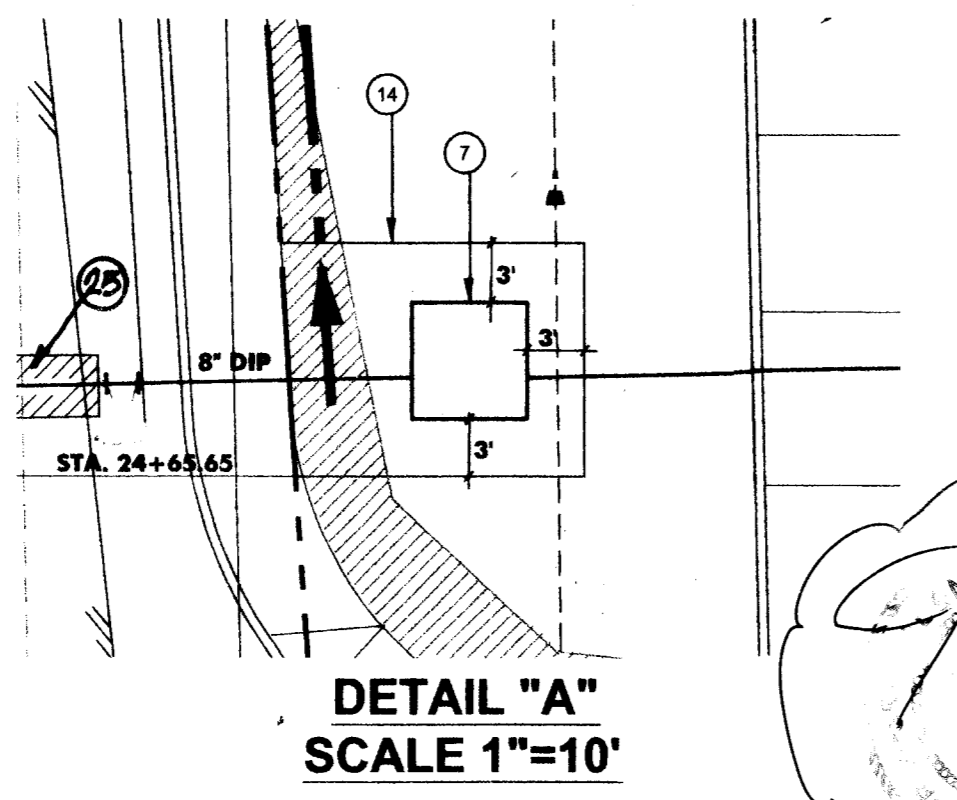
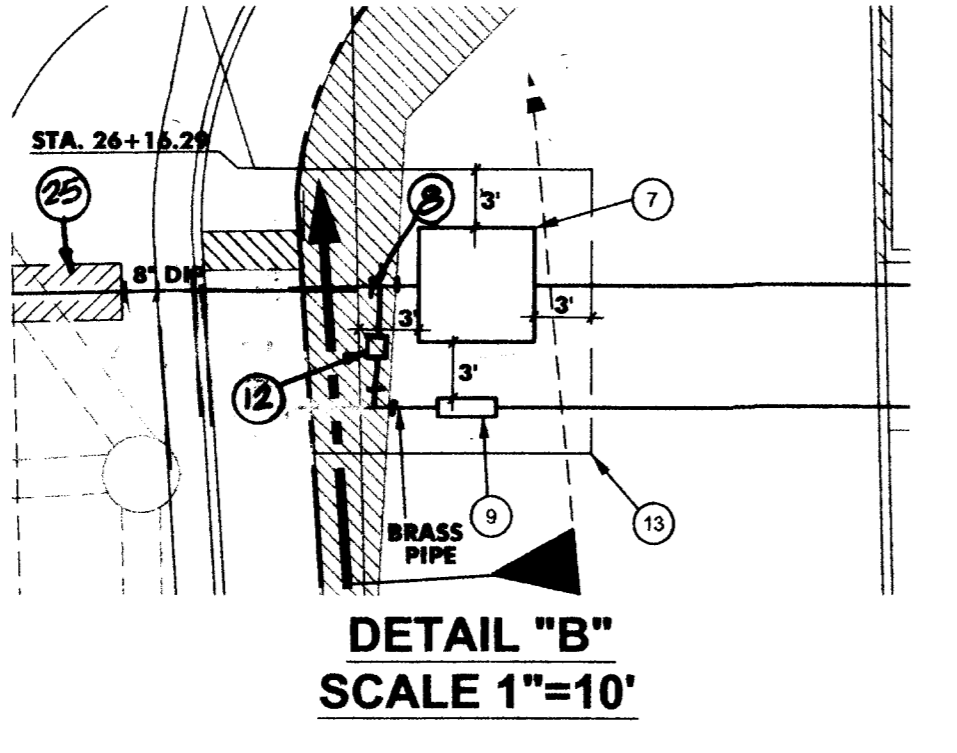
**LEGEND**

EXISTING	PROPOSED	RIGHT-OF-WAY
---	---	---
---	---	PROPERTY LINE
---	---	CENTERLINE
---	---	EASEMENT LINE
---	---	TYPE "L" CURB AND GUTTER
---	---	TYPE "A" CURB
---	---	2' WALLEY GUTTER
---	---	PROPOSED WATERLINE
---	---	EXISTING WATERLINE
---	---	PROPOSED SANITARY SEWER
---	---	EXISTING SANITARY SEWER
---	---	90° BEND
---	---	TEE
---	---	45° BEND
---	---	GATE VALVE
---	---	CAP W/ BLOW OFF VALVE
---	---	PROPOSED FIRE HYDRANT
---	---	REDUCER
---	---	PROPOSED SANITARY MANHOLE
---	---	WYE-SEWER LATERAL

Call before you Dig.  
1-800-227-2600  
UNDERGROUND SERVICE (USA)  
1-702-593-6111

**QUANTITIES**

	PUBLIC	PRIVATE
8" BRASS WATER	0 LF	21 LF
8" DIP WATER	0 LF	49 LF
8" PVC WATER	0 LF	642 LF
6" PVC WATER	0 LF	73 LF
4" PVC WATER	0 LF	79 LF
2" K" CU	0 LF	36 LF
2" PVC CU	0 LF	402 LF
8" GATE VALVE	0 EA	2 EA
FIRE HYDRANTS	0 EA	2 EA
8" PVC SEWER	47 LF	443 LF
4" PVC SEWER	0 LF	11 LF
2" RPPA	1 EA	0 EA
8" DCDA	2 EA	0 EA
8" CLEANOUT	0 EA	4 EA
2" WATER METER	1 EA	0 EA
48" SS MANHOLES	1 EA	1 EA



**WATERLINE TABLE**

LINE	LENGTH	BEARING	TYPE
WL1	40.07'	N12°09'59"E	4" PVC
WL2	19.29'	S10°54'55"W	6" PVC
WL3	38.60'	N14°06'12"E	4" PVC
WL4	36.91'	N90°00'00"E	2" PVC
WL5	24.17'	S32°27'05"E	2" PVC
WL6	41.40'	N88°41'19"E	2" K" CU
WL7	45.57'	S32°27'05"E	8" PVC
WL8	32.01'	N13°05'47"E	2" PVC
WL9	24.15'	N13°05'47"E	2" PVC
WL10	43.23'	N10°59'41"E	6" PVC
WL11	313.11'	N88°41'19"E	8" PVC
WL12	26.11'	N88°41'19"E	8" DIP
WL13	29.95'	S80°16'01"E	6" PVC
WL14	270.63'	N79°00'19"W	8" PVC
WL15	200.61'	N79°00'19"W	2" PVC
WL16	5.81'	N00°00'00"E	8" BRASS
WL17	45.51'	N90°00'00"E	8" PVC
WL18	8.99'	N90°00'00"E	8" BRASS
WL19	5.81'	N00°00'00"E	8" BRASS
WL20	7.00'	S65°50'00"W	8" DIP

**SEWER LINE TABLE**

LINE	LENGTH	BEARING	TYPE	SLOPE
SL1	100.65'	S79°15'58"E	6" PVC	3.6%
SL2	94.16'	S79°15'58"E	6" PVC	1.7%
SL3	54.40'	S26°27'05"E	6" PVC	3.5%
SL4	21.09'	N13°05'47"E	4" PVC	3.0%
SL5	81.77'	S79°15'58"E	6" PVC	3.5%
SL6	14.59'	N13°05'47"E	4" PVC	3.5%

**WATER KEY-NOTES**

- INSTALL 16" X 8" TAPPING SLEEVE & 8" TAPPING VALVE PER UDACS PLATE 22
- INSTALL 8" C900 PVC WATERLINE
- INSTALL 8" ELBOW W/ THRUST BLOCK PER UDACS PL # 5
- INSTALL 8" GATE VALVE PER UDACS PLT. 3 & 8
- INSTALL FIRE HYDRANT ASSEMBLY PER UDACS PL. # 7
- INSTALL 11/2" ELBOW W/ THRUST BLOCKING PER UDACS PL # 5
- INSTALL 8" DCDA PER UDACS PL # 11D
- INSTALL 2" TYPE "K" COPPER SERVICE SADDLE
- INSTALL 2" RPPA BACKFLOW PREVENTION DEVICE PER UDACS PL # 11A
- CONSTRUCT 2" STUB OUT & CAP FIVE FEET FROM BUILDING
- INSTALL 2" 90° ELBOW W/ THRUST BLOCKS PER UDACS PL # 5
- INSTALL 2" WATER METER PER UDACS PLT. 1D
- 15' X 15' LVVWD UTILITY EASEMENT
- 15' X 12' LVVWD UTILITY EASEMENT
- INSTALL 8" X 4" TEE FOR FDC
- INSTALL 6" GATE VALVE
- INSTALL 8" X 8" TEE TO CONNECT TO FIRE HYDRANT
- INSTALL 2" PVC W/ 11" ELBOW PVC PER UDACS PL # 5
- INSTALL 2" X 2" TEE PER UDACS PL. # 5
- INSTALL 8" X 8" M TAPPING SLEEVE & 8" TAPPING VALVE PER UDACS PLT. 22
- INSTALL 8" X 8" ELBOW TO CONNECT TO FIRE HYDRANT
- INSTALL 8" 22.5° ELBOW UDACS PLT 5
- INSTALL 8" 45° ELBOW UDACS PLT 5
- INSTALL 8" X 6" REDUCER
- INSTALL WATERLINE IN STEEL CASING PER UDACS PLATES # 15 & #16 MINIMUM 18-INCH CLEARANCE IS REQUIRED ABOVE THE TOP OF CASING
- INSTALL 8" X 6" TEE TO FIRE HYDRANT

**FIRE FLOW CALCULATIONS**

FIRE FLOW REQUIREMENT IS: 2375 GALLONS PER MINUTE AT 20 PSI RESIDUAL PRESSURE.

BASED ON:

SQUARE FOOTAGE:	30,866	SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR	30,866	
AREA SEPARATION WALLS:	0	SQUARE FEET
BUILDING HEIGHT:	40	FEET
NUMBER OF STORIES:	2	FLOORS
TYPE OF CONSTRUCTION:	V-N	
OCCUPANCY:	B	

FULL AUTOMATIC FIRE SPRINKLER SYSTEM: YES

**SEWER KEY-NOTES**

- 48" SANITARY SEWER MANHOLE PER UDACS DWG #SD1.
- 8" X 4" WYE.
- INSTALL SPECIAL MH "B" FLAT TOP PER UDACS SD-10
- CLEANOUT PER SHEET C9
- INSTALL 8" PVC SANITARY SEWER CAP & STUB OUT
- INSTALL 8" PVC PIPE FOR SANITARY SEWER SD-16B
- INSTALL 4" PVC SERVICE STUB OUT 5' FROM BUILDING
- INSTALL 8" X 8" WYE CONNECTION
- INSTALL SPECIAL MH "A" SHORTY CONE PER UDACS SD-10
- INSTALL 6" PVC PIPE FOR SANITARY SEWER PER SD-160B
- 48" SD-1 M.H.

**BASIS OF BEARING**

NORTH 87°07'11" EAST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE NORTHEAST QUARTER (NE1/4) OF SECTION 12, TOWNSHIP 20 SOUTH, RANGE 59 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY A MAP ON FILE IN THE CLARK COUNTY RECORDER'S OFFICE IN BOOK 102 OF SURVEYS, AT PAGE 50.

**BENCHMARK**

SLV09 13M4  
RIVET & PLATE IN CONCRETE PAD (TRANSFORMER) +/- 300 FT WEST OF SHADY TIMBER ON THE SOUTH SIDE OF CHEYENNE ELEVATION: 2961.97 FEET  
872.3314 METERS

**GENERAL NOTES**

- ALL WATER PIPING SHALL BE C-900 PVC UNLESS SPECIFIED.
  - ALL SEWER PIPING SHALL BE SDR-35 PVC UNLESS SPECIFIED.
  - ALL ONSITE WATER IS TO BE PRIVATELY MAINTAINED.
  - ALL ONSITE SEWER IS TO BE PRIVATELY MAINTAINED.
  - PROVISIONS FOR WATER MAIN AND SEWER MAIN SEPARATION SHOWN IN UDACS SECTION 2.19.02 SHALL APPLY TO ALL ONSITE SEWER AND WATER MAIN CROSSINGS.
- Install waterline in steel casing per udacs plates no. 15 and 16. Minimum 18-inch clearance is required above the top of casing. From the upper bends throughout the lowered section of pipe, Ductile Iron Pipe with restrained joints is required. In addition, thrust blocks are to be installed at the upper bends. ESN 038
- ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.19 OF THE UNIFORM DESIGN & CONSTRUCTION STANDARDS FOR PORTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS & CLEARANCES. ESN 064
- ANNUAL SPACE BETWEEN PIPE AND CASING SHALL BE FILLED WITH CLASS I CLSM. ESN 038A

**LAS VEGAS VALLEY WATER DISTRICT**

APPROVAL: *[Signature]* DATE: 12-04-06  
PROJECT # 112213

**FIRE DEPARTMENT APPROVAL**

APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION IS REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE L.V.V.W.D.  
APPROVAL: *[Signature]* DATE: 8-1-06

**DOUBLE CHECK DETECTOR ASSEMBLY (2)-8"**

THE DOUBLE CHECK DETECTOR ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE UDACS PLATE NO. 11C.

ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) SO AS TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY.

EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

**NOTES**

- INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 27

**REDUCED PRESSURE PRINCIPLE ASSEMBLY**

REDUCED PRESSURE PRINCIPLE ASSEMBLY - (1) 2" APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 11A. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD.

ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY.

EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

AS-BUILTS

**WEST GOWAN OFFICE PARK**  
**GOWAN & 215**  
**UTILITY PLAN**

OWNER/DEVELOPER:  
WEST GOWAN LLC  
7400 WEST SAHARA AVENUE  
LAS VEGAS, NV 89117

5303 South Arville Suite 104  
Las Vegas, Nevada 89118  
Ph: 702/798-8545  
FAX: 702/798-8606

**THE CW GROUP**  
CIVIL ENGINEERS

SCALE: 1"=30'  
DRAWN BY: GLH  
DESIGNED BY: JHC  
CHECKED BY: JHC

RELIGATE ON SITE SEWER SYSTEM  
JHC 10/10/04  
JHC 11/10/04  
JHC 12/20/04  
JHC 11/30/05 AS BUILTS

REVISION VALLEY GUTTER  
REVISION PHASING PLAN  
REVISION AS BUILTS

REVISION APPROVAL BLOCK

DATE: 01 AUG 06  
JOB # 417

APPROVAL: *[Signature]* DATE: 12-04-06  
PROJECT # 112213

**SHEET C5**  
5 OF 9 SHEETS  
DRAWING NO. 107V4689